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(71) Applicant : MATSUSHITA ELECTRIC IND CO LTD

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(72) Inventor : TANAKA TSUNEO  
FURUTA AKIHIRO  
SATO KAZUHIDE

## (54) DIRECTIONAL SPEAKER SYSTEM

### (57) Abstract:

PURPOSE: To realize a small directional speaker system whereby sharp directivity from low pitch sound is obtained.

CONSTITUTION: A high frequency range component within the acoustic signal of a signal source 16 is originally sharp in directivity so that it is inputted to high pitch sound speaker units 13a-13l through an input level control equipment 23. A low frequency range component with less directivity is inputted to an FIR filter 19 through an A/D converter 18. The inputs of the right and left low pitch sound speaker units 14a and 14d are given from the FIR filter 19b and the inputs of central speaker units 14b and 14c are given from the FIR filter 19a. In the respective FIR filters 19, the frequency characteristic of amplitude and a phase is controlled and the acoustic signal is converted so as to make the directivity of the speaker unit 14 to be  $\cos 3\theta$ . Thus, an array speaker with superior directivity is obtained by reducing the FIR filter, the A/D converter and a D/A converter.

